Claims

1   1. A method for processing a data set, comprising the steps of:

2   providing a data set having a first length;

3   formatting a key to the first length;

4   setting pre-determined bits of the formatted key to zero to yield a masked

5   key; and

6   forming an exclusive-OR result of the data set with the masked key to

7   yield an encrypted data set.

1   2. The method of claim 1, further comprising the step of replacing the data set

2   with the encrypted data set.

1   3. The method of claim 1, wherein the first length comprises four high order bits

2   and four low order bits.

1   4. The method of claim 3, wherein the forming step yields an encrypted data set in

2   which only the four low order bits are encrypted.

1   5. The method of claim 3, wherein the setting step comprises setting the four high

2   order bits to zero.

1   6. The method of claim 5, wherein the step of setting the four high order bits to

2   zero comprises forming an AND result of the truncated key with binary 0000

3   1111.

1   7. The method of claim 1, further comprising decrypting the encrypted data set by

2   forming an inverse exclusive-OR result of the encrypted data set with masked key.

1   8. The method of claim 1, wherein the forming step yields an encrypted data set

2   that is entirely within the ASCII printable range.

1   9. The method of claim 1, wherein the step of formatting a key comprises:

2   providing a second data set having a second length;

3   replicating the second data set as necessary until its length is equal to or

4   greater than the first length; and

5   truncating the second data set as necessary until its length equals the first

6   length.

1   10. A method for processing a data set, comprising the steps of:

2   providing a data set having a first length that includes at least four low

3   order bits;

4   providing a key having a second length;

5   formatting the key to equal the first length; and

6   performing a logical operation on the four low order bits of the data set

7   with a corresponding four low order bits of the formatted key.

1   11. The method of claim 10, further comprising the step of replacing the four low

2   order bits of the data set with results of the logical operation.

1   12. The method of claim 10, wherein the first length further includes four high

2   order bits.

1   13. The method of claim 12, further comprising the step of setting the four high

2   order bits of the key to zero, prior to the forming step.

1   14. The method of claim 13, wherein the setting step comprises forming an AND

2   result of the formatted key with binary 0000 1111.

1   15. The method of claim 10, further comprising the step of performing an inverse

2   logical operation on four low order bits of the encrypted data set with the four low

3   order bits of the formatted key to yield a decrypted data set.

1   16. The method of claim 10, wherein the step of providing a key comprises:

2   providing a second data set having a second length;

3   formatting the key to the first length.

1   17. The method of claim 10, wherein the forming step yields an encrypted data set

2   that is entirely within the ASCII printable range.

1   18. A system for processing a data set having a first length, comprising:

2   a system for formatting a key to the first length;

3   a system for setting pre-determined bits of the key to zero to yield a

4   masked key; and

5   a system for forming an exclusive-OR result of the data set with the

6   masked key to yield an encrypted data set.

1   19. The system of claim 18, wherein the system for setting pre-determined bits of

2   the key to zero includes a system for forming an AND result of the formatted key

3   with binary 0000 1111.

1   20. The system of claim 18, wherein the system for formatting comprises:

2   a system for providing a second data set;

3   a system for replicating the second data set as necessary until its length is

4   equal to or greater than the first length; and

5   a system truncating the second data set as necessary until its length equals

6   the first length.

1   21. The system of claim 18, wherein the first length comprises four bits high order

2   bits and four low order bits.

1   22. The system of claim 21, wherein the pre-determined bits set to zero are the

2   four high order bits.

1   23. The system of claim 21, wherein the system for forming yields an encrypted

2   data set wherein only the four low order bits are encrypted.

1   24. The system of claim 21, further comprising a system for replacing the four low

2   order bits of the data set with the determined exclusive-OR result.

1   25. The system of claim 18, further comprising a system for decrypting the

2   encrypted data set by forming an inverse exclusive-OR result of the encrypted data

3   set with the masked key.

1   26. The system of claim 18, wherein the encrypted data set is entirely within the

2   ASCII printable range.

1   27. A system for processing a data set, comprising:

2   a data set having a first length that includes at least four low order bits;

3   a key having a second length;

4   a system for formatting the key to equal the first length; and

5   a system for forming an exclusive-OR result of the four low order bits of

6   the data set with a corresponding four low order bits of the formatted key to yield

7   an encrypted data set.

1   28. The system of claim 27, wherein the encrypted data set is entirely within the

2   ASCII printable range.

1   29. A program product stored on a recordable media for processing a data set

2   having a first length, which when executed, comprises:

3   a system for formatting a key to the first length;

4   a system for setting pre-determined bits of the key to zero to yield a

5   masked key; and

6   a system for forming an exclusive-OR result of the data set with the

7   masked key to yield an encrypted data set.

1   30. The program product of claim 29, wherein the system for setting pre-

2   determined bits of the key to zero includes a system for forming an AND result of

3   the formatted key with binary 0000 1111.

1   31. The program product of claim 29, wherein the system for formatting

2   comprises:

3   a system for providing a second data set;

4   a system for replicating the second data set as necessary until its length is

5   equal to or greater than the first length; and

6   a system for truncating the second data set as necessary until its length

7   equals the first length.

1   32. The program product of claim 29, wherein the first length comprises four bits

2   high order bits and four low order bits.

1   33. The program product of claim 32, wherein the pre-determined bits set to zero

2   are the four high order bits.

1   34. The program product of claim 32, wherein the system for forming yields an

2   encrypted data set wherein only the four low order bits are encrypted.

1   35. The program product of claim 29, further comprising a system for replacing

2   the four low order bits of the data set with the determined exclusive-OR result.

1   36. The program product of claim 29, further comprising a system for decrypting

2   the encrypted data set by forming an inverse exclusive-OR result of the encrypted

3   data set with the masked key.

1   37. The program product of claim 29, wherein the encrypted data set is within the

2   ASCII printable range.